LSI

Storage Adapters

Product Guide

2010

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Introduction to LSI™

The LSI portfolio of storage solutions now includes 3ware® controller cards which means that all of the finest storage adapters are now available from one single vendor. As the world's No. 1 provider of RAID controllers in the channel, our commitment to channel partners starts at the top, reaches throughout the company and is backed by the industry's most complete selection of SATA and SAS RAID controllers and host bus adapters (HBAs). We're providing our partners with a powerful performance advantage and focused innovations that address their customers' evolving storage requirements in an ultra-competitive industry. The powerful combination of technology and channel leadership positions LSI as a leading storage provider to the channel network.

There is no other place to go for a complete selection of storage solutions. With a complete line of SATA+SAS, SATA, SCSI, and Fibre Channel adapters, LSI delivers a trusted storage solution that is designed to meet all of your needs, regardless of application or budget. Our products range from HBAs to MegaRAID® and 3ware RAID controllers.

LSI's ongoing vision to deliver first-to-market product provides you with a unique opportunity. Proactively support your storage needs by supplying the latest and greatest technologies. Choose from a breadth of storage adapters that is unequalled by any other single supplier.

MegaRAID® SATA+SAS

As storage demands continue to grow, the cost, performance, security and energy efficiency of your storage components are even more important. With every MegaRAID product, LSI delivers value in our four cornerstones of leadership: Features and Usability, Data Protection and Availability, Performance, and Green.

LSI offers a complete selection of 3Gb/s and 6Gb/s SATA+SAS MegaRAID controller cards for direct attached storage (DAS) connectivity. The 6Gb/s SATA+SAS RAID controllers deliver significant performance improvements for both 3Gb/s and 6Gb/s systems. The full MegaRAID® product line-up includes entry, value and feature products, ranging from 4 to 28 ports in a variety of internal and external connector configurations. If you choose to go with the entry line first, you can more easily migrate to the MegaRAID value or feature line with MegaRAID Storage Manager™.

The MegaRAID 9200 series of controllers featuring the LSISAS2108 6Gb/s SAS RAID-on-Chip (ROC), double the data transfer rates of their 3Gb/s predecessors. The superior read/write performance makes them well suited for a broad range of application workloads, from data center applications such as email and database servers to more compute-intensive applications such as streaming video, OLTP and data archival.

MegaRAID SATA+SAS Feature Line

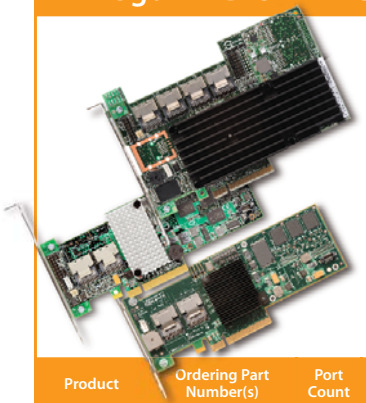
Providing the ultimate in performance and scalability, the MegaRAID SATA+SAS feature line offers 3Gb/s or 6Gb/s transfer rates, external connectivity, and maximum device support for external SATA and SAS enclosures.

KEY FEATURES:

- External connectivity for scalability beyond the confines of the server chassis
- Maximum device support for applications requiring a large number of drives
- LSISAS2108 or LSISAS1078 RAID-on-Chip (ROC) and PCI Express® host interface for high-bandwidth applications
- Optional battery backup to help prevent data loss in the event of a server failure

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9280-24i4e	LSI00211 (SGL)	28	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	240	512MB	6 x SFF8087 Mini-SAS	1 x SFF8088 Mini-SAS	LSIiBBU07
9280-16i4e	LSI00210 (SGL)	20	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	240	512MB	4 x SFF8087 Mini-SAS	1 x SFF8088 Mini-SAS	LSIiBBU07
9280DE-8e	LSI00207 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	240	512MB		2 x SFF8088 Mini-SAS	LSIiBBU07
9280-8e	LS00205 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	240	512MB		2 x SFF8088 Mini-SAS	LSIiBBU07
9280-4i4e	LSI00209 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	240	512MB	1 x SFF8087 Mini-SAS	1 x SFF8088 Mini-SAS	LSIiBBU07
8880EM2	LSI00159 (SGL)	8	3Gb/s	PCI Express	0, 1, 5, 6, 10, 50, 60	240	512MB		2 x SFF8088 Mini-SAS	LSIiBBU07
8888ELP	LSI00142 (KIT)	8	3Gb/s	PCI Express	0, 1, 5, 6, 10, 50, 60	240	512MB	2 x SFF8087 Mini-SAS	2 x SFF8088 Mini-SAS	LSIiBBU05 LSIiTBBU03

MegaRAID SATA+SAS Value Line



The MegaRAID SATA+SAS value line offers a mix of value and performance for internal SATA and SAS systems. These products feature 3Gb/s or 6Gb/s transfer rates, internal connectivity and support for both SATA and SAS drives.

KEY FEATURES:

- Internal connectivity for SATA or SAS drives that reside within the server
- Support for up to 128 devices using SAS expanders
- LSI RAID-on-Chip (ROC) and PCI Express host interface for high-bandwidth applications
- Optional battery backup to help prevent data loss in the event of a server failure

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9260-16i	LSI00208 (SGL)	16	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	128	512MB	4 x SFF8087 Mini-SAS		LSIiBBU07
9260DE-8i	LSI00206 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	128	512MB	2 x SFF8087 Mini-SAS		LSIiBBU07
9260-8i	LSI00198 (SGL) LSI00202 (KIT)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	128	512MB	2 x SFF8087 Mini-SAS		LSIiBBU07
9261-8i	LSI00212 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	128	512MB	2 x SFF8087 Mini-SAS		LSIiBBU07
9260-4i	LSI00197 (SGL) LSI00201 (KIT)	4	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, 60	128	512MB	1 x SFF8087 Mini-SAS		LSIiBBU07
84016E	LSI00137 (SGL)	16	3Gb/s	PCI Express	0, 1, 5, 6, 10, 50, 60	122	256MB	4 x SFF8087 Mini-SAS		LSIiBBU01
8708EM2	LSI00180 (SGL) LSI00187 (KIT)	8	3Gb/s	PCI Express	0, 1, 5, 6, 10, 50, 60	32	256MB	2 x SFF8087 Mini-SAS		LSIiBBU06
8704EM2	LSI00181 (SGL) LSI00177 (KIT)	4	3Gb/s	PCI Express	0, 1, 5, 6, 10, 50, 60	32	128MB	1 x SFF8087 Mini-SAS		LSIiBBU06

MegaRAID SATA+SAS Entry Line

LSI MegaRAID® SATA+SAS entry controller cards allow small to medium business owners and gaming enthusiasts to enjoy the latest RAID technology at affordable prices with low power consumption. This product line delivers trusted MegaRAID reliability with minimal maintenance effort. MegaRAID entry controller cards offer users a straight-forward solution that includes essential RAID levels and uncomplicated configuration options.

KEY FEATURES:

- Low-cost RAID 5 protection against hard drive failure
- Internal connectivity for 3Gb/s or 6Gb/s, SATA or SAS drives that reside within the server
- Common management utility across entire MegaRAID SATA+SAS offering
- 6Gb/s controller cards are environmentally friendly with a low-power controller and cardboard packaging

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Drives Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9240-8i	LSI00204 (KIT) LSI00200 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 10, 50, JBOD	64		2 x SFF8087 Mini-SAS		
9240-4i	LSI00203 (KIT) LSI00199 (SGL)	4	6Gb/s	PCI Express 2.0	0, 1, 5, 10, 50, JBOD	64		1 x SFF8087 Mini-SAS		
8208ELP	LSI00108 (KIT)	8	3Gb/s	PCI Express 1.0	0, 1, 5, and 10	8		2 x SFF8087 Mini-SAS		
8204ELP	LSI00132 (KIT)	4	3Gb/s	PCI Express 1.0	0, 1, 5, and 10	4		1 x SFF8087 Mini-SAS		

3ware® SATA+SAS

High Performance SATA+SAS RAID Controllers

3ware builds on an established SATA leadership with the 3ware SAS 9750 and 9690SA controller cards, featuring high-performance RAID. 3ware pioneered the way for SATA and now capitalizes on time-proven serial storage expertise to take users from SCSI to SAS in sequential I/O intensive and multi-stream environments.

3ware RAID controllers feature StorSwitch®, which is a unique non-blocking fabric architecture that allows 3ware controllers to concurrently communicate to all attached drives through a pool of 32 direct memory access (DMA) channels for superb performance and data availability. The result is superior overall system performance compared to non-scalable, hub-based systems that share the bandwidth of a single DMA channel.

In addition, 3DM®2 is powerful remote management software that simplifies the configuration, management and monitoring of 3ware storage arrays. It provides an intuitive interface to remotely create, manage and monitor your 3ware RAID arrays and single disks in a robust, secure array management environment for your RAID protected data. Proven self-monitoring technologies and automatic notification services can maximize your storage availability while minimizing the pressure on system administrators.

3ware 9750 SATA+SAS Product Line

LSI™ 3ware 6Gb/s SATA+SAS RAID controller cards provide a new level of reliability, availability, and performance to businesses that are facing storage challenges, particularly in sequential I/O intensive and multi-stream environments. These 3ware controllers employ the latest in RAID-on-Chip technology and provides a higher standard of data protection and performance through advanced processes.

KEY FEATURES:

- Support for up to 127 6Gb/s or 3Gb/s, SATA or SAS physical devices
- PCI Express x8 host interface
- RAID levels 0, 1, 5, 6, 10, 50, and Single Disk
- Native Command Queuing
- Low-profile form factor available on certain cards
- StreamFusion+ provides enhanced features and functionality

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9750-24i4e	LSI00251 (SGL)	28	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, Single Disk	127	512MB	6 x SFF8087	1 x SFF8088	LSIiBBU07
9750-16i4e	LSI00252 (SGL)	20	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, Single Disk	127	512MB	4 x SFF8087	1 x SFF8088	LSIiBBU07
9750-8e	LSI00243 (SGL) LSI00250 (KIT)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, Single Disk	127	512MB		2 x SFF8088	LSIiBBU07
9750-4i4e	LSI00242 (SGL) LSI00241 (KIT)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10, 50, Single Disk	127	512MB	1 x SFF8087	1 x SFF8088	LSIiBBU07
9750-8i	LSI00213 (KIT) LSI00214 (SGL)	8	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10 ,50, Single Disk	127	512MB	1 x SFF8087		LSIiBBU07
9750-4i	LSI00215 (KIT) LSI00216 (SGL)	4	6Gb/s	PCI Express 2.0	0, 1, 5, 6, 10 ,50, Single Disk	127	512MB	1 x SFF8087		LSIiBBU07

3ware 9690SA Product Line

Advanced 3ware RAID architecture and new performance features rocket the 9690SA to RAID 5 and RAID 6 performance heights. With StreamFusion™+ firmware, 3ware's advanced processes allow for optimized reads and writes in multi-stream environments and superior throughput even in degraded modes to provide a higher standard of data protection and performance.

KEY FEATURES:

- Scalable to 128 SAS and SATA devices
- PCI Express x8 host interface
- Native Command Queuing
- RAID levels 0, 1, 5, 6, 10, 50, and Single Disk
- Low-profile form factor
- StreamFusion+ provides enhanced features and functionality

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9690SA-8E	9690SA-8E (SGL) 9690SA-8E (KIT)	8	3Gb/s	PCI Express 1.1	0,1,5,6,10,50, Single Disk	128	512MB		2 x SFF8088	BBU-MODULE-04
9690SA-8I	9690SA-8I (SGL) 9690SA-8I (KIT)	8	3Gb/s	PCI Express 1.1	0,1,5,6,10,50, Single Disk	128	512MB	2 x SFF8087		BBU-MODULE-04
9690SA-4I4E	9690SA-4I4E (SGL) 9690SA-4I4E (KIT)	8	3Gb/s	PCI Express 1.1	0,1,5,6,10,50, Single Disk	128	512MB	1 x SFF8087	1 x SFF8088	BBU-MODULE-04
9690SA-4I	9690SA-4I (SGL) 9690SA-4I (KIT)	4	3Gb/s	PCI Express 1.1	0,1,5,6,10,50, Single Disk	128	512MB	1 x SFF8087		BBU-MODULE-04

3ware 9650SE Product Line

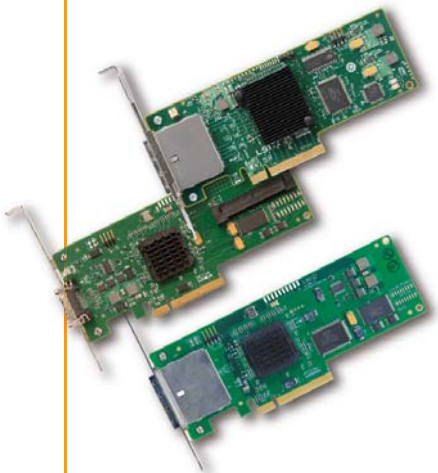
3ware's 9650SE SATA II hardware RAID controllers deliver industry-leading RAID performance, robust fault tolerance, and multi-terabyte capacities. A PCI Express host interface, Multi-lane™ connectivity, StorSwitch architecture, and sophisticated SATA II features drive this unrivaled performance.

KEY FEATURES:

- Native Command Queuing
- RAID levels 0, 1, 5, 6, 10, 50, Single Disk
- SATA II advanced features
- Low-profile form factor
- StreamFusion+ provides enhanced features and functionality

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Onboard Memory	Internal Connector	External Connector	Battery Back-up Option
9650SE-24M8	9650SE-24M8 (SGL) 9650SE-24M8 (KIT)	24	3Gb/s	PCI Express 1.1	0, 1, 5, 6, 10, 50, Single Disk, JBOD	24	512MB	3 x M8		BBU-MODULE-03
9650SE-16ML	9650SE-16ML (SGL) 9650SE-16ML (KIT)	16	3Gb/s	PCI Express 1.1	0, 1, 5, 6, 10, 50, Single Disk, JBOD	16	256MB	4 x SFF8087		BBU-MODULE-03
9650SE-12ML	9650SE-12ML (SGL) 9650SE-12ML (KIT)	12	3Gb/s	PCI Express 1.1	0, 1, 5, 6, 10, 50 Single Disk, JBOD	12	256MB	3 x SFF8087		BBU-MODULE-03
9650SE-8LPML	9650SE-8LPML (SGL) 9650SE-8LPML (KIT)	8	3Gb/s	PCI Express 1.1	0, 1, 5, 6, 10, 50, Single Disk, JBOD	8	256MB	2 x SFF8087		BBU-MODULE-03
9650SE-4LPML	9650SE-4LPML (SGL) 9650SE-4LPML (KIT)	4	3Gb/s	PCI Express 1.1	0, 1, 5, 10, Single Disk, JBOD	4	256MB	1 x SFF8087		BBU-MODULE-03
9650SE-2LP	9650SE-2LP (SGL) 9650SE-2LP (KIT)	2	3Gb/s	PCI Express 1.1	0, 1, Single Disk, JBOD	2	128MB	Discrete		BBU-MODULE-03

Host Bus Adapter SATA+SAS External and Combo Product Line



LSI SATA+SAS External and Combo HBAs deliver superior performance and external connectivity that satisfies both SAS and SATA requirements. Providing extreme scalability, these adapters support a high number of physical devices and are optimal for large-capacity server storage for RAID and non-RAID enclosures. LSI SAS HBAs are able to connect to SATA and SAS hard disk drives, allowing for tiered storage that optimizes costs and performance. SAS drives are optimal when speed and reliability are of the utmost concern while SATA drives are appropriate when capacity and cost are more important.

New 6Gb/s SAS features include support for self-discovery/self-configuring expanders and longer cables, simplifying the deployment of larger and more complex storage topologies. The new controllers also have standardized zoning which improves storage efficiencies by allowing multiple servers to share storage devices.

KEY FEATURES:

- Flexibility to use SATA or SAS HDDs or SSDs
- Fusion-MPT™ architecture provides over 140,000 I/Os per second
- Embedded CPU in ASIC performs RAID operations
- Integrated RAID available on certain boards
- Supports all major Operating Systems

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Internal Connector	External Connector
9200-16e	LSI00189 (SGL)	16	6Gb/s	PCI Express 2.0	JBOD	512		4 x SFF8088
9200-8e	LSI00188 (SGL)	8	6Gb/s	PCI Express 2.0	JBOD	512		2 x SFF8088
9212-4i4e	LSI00192 (SGL) LSI00193 (KIT)	8	6Gb/s	PCI Express 2.0	0, 1, 1E, 10, JBOD	256	4 x SATA	1 x SFF8088
3801E	LSI00138 (SGL)	8	3Gb/s	PCI Express 1.1	JBOD	252		2 x SFF8088
3801X	LSI00124 (SGL)	8	3Gb/s	PCI-X	JBOD	128		2 x SFF8088
3442E-R	LSI00167 (SGL) LSI00110 (KIT)	8	3Gb/s	PCI Express 1.1	0, 1, 1E, JBOD	252	1 x SFF8484	1 x SFF8470
3442X-R	LSI00164 (SGL) LSI00100 (KIT)	8	3Gb/s	PCI Express 1.1	0, 1, 1E, JBOD	128	1 x SFF8484	1 x SFF8470

Host Bus Adapter SATA+SAS Internal Product Line

LSI SATA+SAS Internal Connectivity HBAs provide a high-performance, low-cost solution that satisfies both SAS and SATA requirements. Optimal for servers and workstations needing ultra high-speed data transfers, these adapters deliver high-throughput and maximum air-flow for internal storage needs.

KEY FEATURES:

- Either four or eight port internal connectivity
- Integrated RAID 0, 1, 1E, and 10 available on certain HBAs
- PCI-X and PCI Express host interfaces
- SATA and SAS functionality at SATA pricing
- Fusion-MPT architecture provides over 140,000 I/Os per second
- Embedded CPU in ASIC performs RAID operations
- Supports all major Operating Systems

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Internal Connector	External Connector
9201-16i	LSI00244	16	6Gb/s	PCI Express 2.0	JBOD	512	4 x SFF8087 Mini-SAS	
9211-8i	LSI00194 (SGL) LSI00195 (KIT)	8	6Gb/s	PCI Express 2.0	0, 1, 1E, 10, JBOD	256	2 x SFF8087	
9211-4i	LSI00190 (SGL) LSI00191 (KIT)	4	6Gb/s	PCI Express 2.0	0, 1, 1E, 10, JBOD	256	1 x SFF8087	
3081E-R	LSI00182 (SGL) LSI00151 (KIT)	8	3Gb/s	PCI Express 1.1	0, 1, 1E, JBOD	252	2 x SFF8087	
3080X-R	LSI00165 (SGL) LSI00117 (KIT)	8	3Gb/s	PCI-X	0, 1, 1E, JBOD	252	2 x SAS8484	
3041E-R	LSI00168 (SGL) LSI00112 (KIT)	4	3Gb/s	PCI Express 1.1	0, 1, 1E, JBOD	128	1 x SFF8087	
3041X-R	LSI00166 (SGL) LSI00033-F (KIT)	4	3Gb/s	PCI-X	0, 1, 1E, JBOD	128	4 x SATA	

Host Bus Adapter SCSI Product Line

LSI offers legacy products, such as Ultra160 HBAs, as well as advanced single and dual channel SCSI solutions with Integrated RAID. LSI PCI Express SCSI HBAs provide the speed and bandwidth required by today's data intensive applications and are compatible with newer hardware in the marketplace. From peripheral connectivity to storage integration, LSI puts SCSI connectivity where you need it.

Product	Ordering Part Number(s)	Port Count	Data Transfer Rate	Host Interface	RAID Levels	Number of Devices Supported	Internal Connector	External Connector
LSI22320SE	LSI00153 (SGL)	2	Ultra320	PCI Express 1.1	JBOD	30		2 x 68-pin VHDCI
LSI22320-R	LSI22320RB-F (SGL)	2	Ultra320	PCI-X	0, 1, 1E, JBOD	30	2 x 68-pin HD	2 x 68-pin VHDCI
LSI21320-R	LSI21320RB-F (SGL)	2	Ultra320	PCI-X	0, 1, 1E, JBOD	30	2 x 68-pin HD	1 x 68-pin HD
LSI20320IE	LSI00154 (SGL)	1	Ultra320	PCI Express 1.1	JBOD	15	1 x 68-pin HD	1 x 68-pin VHDCI
LSI20320-R	LSI20320RB-F (SGL) LSI20320R-F (KIT)	1	Ultra320	PCI-X	0, 1, 1E, JBOD	15	1 x 68-pin HD	1 x 68-pin VHDCI
LSIU320	LSI00011-F (SGL)	1	Ultra320	PCI-X	JBOD	15		1 x 68-pin HD
LSI20160	LSI20160B-F (SGL)	1	Ultra160	PCI		15	1 x 68-pin HD	1 x 68-pin VHDCI

Host Bus Adapter Fibre Channel Product Line

Fibre Channel (FC) is a technology for constructing storage area networks (SANs). When deployed with fibre optic links, FC networks allow users to establish a centralized pool of storage with cable lengths that span rooms, floors or inter-building separations between server and storage. FC is an optimal connection technology choice when applications require low latency or high bandwidth such as video editing, backup/restore, and data mining.

LSI Fibre Channel HBAs are engineered to deliver high performance, port density, and ease of use. These cost-effective HBAs install quickly, auto-configure and operate with a powerful software suite that fully automates the task of deploying server to SAN connectivity. LSI adapters are built with the powerful Fusion-MPT architecture, which means they are delivered with robust, proven drivers available for Windows, Linux, Solaris, NetWare and more.

Product	Ordering Part Number(s)	Ports	Data Transfer Rate	Host Interface	Connector	Media
LSI7404EP-LC	LSI00149 (SGL)	Quad	4Gb/s	PCI Express 1.1	4 x LC, SFP, multimode optics	Optical
LSI7404XP-LC	LSI00060-F (SGL)	Quad	4Gb/s	PCI-X	4 x LC, SFP, multimode optics	Optical
LSI7204EP-LC	LSI00172 (SGL)	Dual	4Gb/s	PCI Express 1.1	2 x LC, SFP, multimode optics	Optical
LSI7204XP-LC	LSI00170 (SGL)	Dual	4Gb/s	PCI-X	2 x LC, SFP, multimode optics	Optical
LSI7104EP-LC	LSI00171 (SGL)	Single	4Gb/s	PCI Express 1.1	1 x LC, SFP, multimode optics	Optical
LSI7104XP-LC	LSI00169 (SGL)	Single	4Gb/s	PCI-X	1 x LC, SFP, multimode optics	Optical

Cables and Connectors

	SFF-8088 to SFF-8088 (Multi-lane external SAS)	SFF-8088 to SFF-8470 (Multi-lane external SAS converter cable)	SFF-8087 to SFF-8482 (Forward SAS breakout cable w/ drive power connectors)	SFF-8087 to SFF-8087 (Multi-lane internal)	SFF-8087 to SFF-8087 (Mulit-lane internal cable with sideband)
Cables P/Ns	CBL-SFF8088SAS-10M (1.0 m) CBL-SFF8088SAS-20M (2.0 m)	CBL-SFF8088IB-10M (1.0 m) CBL-SFF8088IB-20M (2.0 m)	CBL-SAS8087OCF-06M (0.6 m)	CBL-SFF8087-05M (0.5 m) CBL-SFF8087-06M (0.6 m)	CBL-SFF8087SB-08M (.8m) CBL-SFF8087SB-06M (.6m) CBL-SFF8087SB-05M (.5m)
Compatible Controllers	3ware 9690SA (-8E, -4I4E), MegaRAID 88XX , 9280-xx	3ware 9690SA (-8E, -4I4E), MegaRAID 88XX , 9280-xx	9690SA (-8I, -4I4E, 4I), MegaRAID 87XX, 82XX, 8888ELP, 84016E , 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx	9690SA (-8I, -4I4E, 4I), MegaRAID 87XX, 82XX, 8888ELP, 84016E , 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx	MegaRAID 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx

Cables and Connectors

	SFF-8087 to Discrete (Forward breakout cable)	Discrete to SFF-8087 (Reverse breakout cable)	SFF-8087 to SFF-8470 (Bi-directional Multi-lane hybrid cable)	M8 to SFF-8087 (Multi-lane internal "Y" cable)
Cables P/Ns	CBL-SFF8087OCF-05M (0.5 m) CBL-SFF8087OCF-06M (0.6 m) CBL-SFF8087OCF-10M (1.0 m)	CBL-SFF8087OCR-05M (0.5 m) CBL-SFF8087OCR-06M (0.6 m) CBL-SFF8087OCR-10M (1.0 m)	CBL-SFF8087IB-05M (0.5 m) CBL-SFF8087IB-06M (0.6 m)	CBL-M8ML-06M (0.6 m)
Compatible Controllers	9690SA (8I, 4I4E, 4I), 9650SE (-4LPML, -8LPML, -12ML,-16ML), MegaRAID 87XX, 82XX, 8888ELP, 84016E , 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx	9550SXU (-4LP, -8LP)	9650SE (-4LPML, -8LPML, -12ML, -16ML)	9650SE-24M8

	M8 to Discrete (Forward breakout cable)	Discrete SATA (Standard, point-to-point SATA cable)	SFF8087 to SFF8482	SFF8087 to Discrete
Cables P/Ns	CBL-M8OCF-06M (0.6 m) CBL-M8OCF-10M (1.0 m)	CBL-SATA-39 (39"/1 m)	LSI-8087-8482p-1M (1.0m)	LSI-8087-SATA-1M (1.0m)
Compatible Controllers	9650SE-24M8	9650SE-2LP, 9550SXU (-4LP, -8LP)	MegaRAID SAS 88XX, 87XX, 84XX, 82XX , 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx	MegaRAID SAS 88XX, 87XX, 84XX, 82XX, 926x-xx, 9280-4i4e, 9280-16i4e, 9280-24i4e, 3ware 9750-xx

MegaRAID Battery Back-up Units

LSI offers a family of MegaRAID battery backup units (BBUs) and for use with our high-performance MegaRAID controller cards. The battery backup units protect the integrity of the cached data by providing power if there is a server failure or complete AC power failure.

MegaRAID intelligent battery backup units (iBBUs) are add-on modules that offer all the features of the BBUs with the added functionality to automatically charge the battery pack and communicate with the host system the battery status, such as voltage, temperature and capacity.

The industry-exclusive MegaRAID transportable battery backup units (TBBUs) offer an additional layer of fault tolerance by protecting data in cache during controller field replacement.

Battery	Ordering Part Number	Compatible Controller Cards
LSIiBBU01	LSI00184	300-8X, 300-8XLP, 300-4XLP, 8344ELP, 8308ELP, 84016E
LSIiBBU05	LSI00183	8704ELP, 8708ELP, 8888ELP
LSIiBBU06	LSI00160	8704EM2, 8708EM2
LSIiBBU07	LSI00161	8880EM2, 9260 Series, 9280 Series
LSIiTBBU02	LSI00185	256MB TBBU for 8408E and 8480E
LSIiTBBU03	LSI00157	256MB TBBU for 8888ELP

3ware Battery Back-up Units

3ware's combination of powerful reliability enhancements and BBUs help maximize data protection without sacrificing performance.

KEY FEATURES:

- Battery Backup Unit (BBU) – Maximum reliability with cached write data protection
- Secondary Power Loss Support – Safeguards data against power interrupts during system resumption
- Missing Array Detection – Helps eliminate silent data loss by retaining unwritten data until user intervention
- Write Journaling – Uses and protects drive write cache for solid data protection and maximum performance
- Dynamic Sector Repair – Increased drive reliability with on-the-fly correction of drive media errors
- Drive Power-On Reset Detection – Enhances data protection by degrading a drive that may have lost data during transient power reset
- Extensive Drive Timeout Recovery – Maximizes drive error recovery with intelligent timeout algorithm
- Out of Band Signaling Retry – Ensures drive health during power-up with enhanced drive detection

Battery	Ordering Part Number	Compatible Controller Cards
BBU-MODULE-03	BBU-MODULE-03	9650SE, 9550SX, 9550SXU, 9590SE
BBU-MODULE-04	BBU-MODULE-04	9690SA, 9650SE, 9550SX, 9550SXU, 9590SE (remote mount option)
BATT-SPARE-02	BATT-SPARE-02	Spare Battery for BBU-MODULE-03, BBU-MODULE-04, BBU-9550SX-01
LSIiBBU07	LSI00161	9750-24i4e, 9750-16i4e, 9750-8e, 9750-4i4e, 9750-8i, 9750-4i

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